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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,501	12/07/2000	Raul Rico	00P9039US	1258

7590 10/21/2002

Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER
PEREZ, GUILLERMO

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 10/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/731,501	Applicant(s) RICO ET AL.	
	Examiner Guillermo Perez	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-8, and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Pavlik et al. (U. S. Pat. 4,508,985).

Referring to claim 1, Pavlik et al. disclose a method for tuning the torsional natural frequency of a rotor comprising the step of:

forming within winding slots (20) defined by radially projecting winding teeth at least one tuning slot (32) that extends radially inwardly from the bottom of the winding slot (20) a distance to tune the rotor (figure 3) to a desired torsional natural frequency.

Referring to claims 2, 6, and 15, Pavlik et al. disclose that the at least one tuning slot (32) has a width (34) smaller than the diameter of any winding wire received within the winding slot (20) to prevent winding wire from passing into the tuning slot (32).

Referring to claim 3, 7, and 16, Pavlik et al. disclose that the at least one tuning slot (32) is positioned at a location that minimizes impact to the electromagnetic characteristics of the rotor cross-section.

Referring to claims 4, and 8, Pavlik et al. disclose a plurality of tuning slots (32).

Referring to claim 5, Pavlik et al. disclose a method for tuning the torsional natural frequency of a rotor having opposing poles and a quadrature axis, comprising

the step of forming within the winding slots (20) defined by radially projecting winding teeth that are positioned substantially at the quadrature axis, at least one tuning slot (32) that extends radially inwardly from the bottom of the winding slot (20) a distance to tune the rotor to a desired torsional natural frequency.

Referring to claim 14, Pavlik et al. disclose a rotor comprising:

a rotor shaft;

a cylindrically configured rotor body (16) formed as part of the shaft and having a plurality of radially projecting winding teeth defining winding slots (20) for receiving winding wire therein, the rotor body (16) having two or more poles and a quadrature axis, the winding slots (20) having a bottom spaced radially inward; and

at least one tuning slot (32) positioned at the quadrature axis and extending radially inward from the bottom of the winding slot (20) a distance that tunes the rotor to a desired torsional natural frequency.

Referring to claim 17, Pavlik et al. disclose a plurality of tuning slots (32) positioned substantially at the quadrature axis.

2. Claims 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi (U. S. Pat. 4,827,172).

Referring to claim 9, Kobayashi discloses a rotor comprising:

a rotor shaft (20);

a cylindrically configured rotor body (26) formed as part of the shaft (20) and having a plurality of radially projecting winding teeth (52) that define winding slots

(34,36) for receiving winding wire (55) therein, the winding slots (34,36) having a bottom portion spaced radially inward; and

at least one first winding slot (36) having a tuning slot (48,50) that extends radially inward from the bottom thereof a distance that tunes the rotor (26) to a desired torsional natural frequency; and

at least one second winding slot (34) being devoid of a tuning slot.

Referring to claim 10, Kobayashi discloses that the at least one tuning slot (48,50) has a width (48) smaller than the diameter of any winding wire (55) received within the winding slot (34,36) to prevent winding wire (55) from passing into the tuning slot (48,50).

Referring to claim 11, Kobayashi discloses that the at least one tuning slot (48,50) is positioned at a location that minimizes impact to the electromagnetic characteristics of the rotor cross-section.

Referring to claim 12, Kobayashi discloses a plurality of tuning slots (48,50).

Referring to claim 13, Kobayashi discloses that the rotor body (26) is formed of a plurality of rotor laminations stacked together.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pavlik et al. in view of Kobayashi (U. S. Pat. 4,827,172).

Pavlik et al. substantially teaches the claimed invention except that it does not show that the winding slots positioned at the poles are devoid of any tuning slot.

Kobayashi discloses that the rotor body (26) is formed of a plurality of rotor laminations stacked together. Kobayashi discloses that the winding slots (34a, 34b) positioned at the poles are devoid of any tuning slot (figure 2). Kobayashi's invention has the purpose of providing more slots than the rotor core of a conventional motor without either reducing the thickness of the teeth or using flat wires, and thereby making it possible to effectively increase the power output in comparison with that of conventional motors.

It would have been obvious at the time the invention was made to modify the rotor disclosed by Pavlik et al. and provide it with tuning slot devoid slots as disclosed by Kobayashi for the purpose of providing more slots than the rotor core of a conventional motor without either reducing the thickness of the teeth or using flat wires, and thereby making it possible to effectively increase the power output in comparison with that of conventional motors.

Response to Arguments

In response to Applicant's argument that the Examiner mischaracterized the slot in the slots of the rotor and that the references do not suggest not teach the tuning of a rotor, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from

a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

As to the language on line 12 of claim 9, the applicant should note that this is merely "result" language which cannot be relied upon to define over Pavlik et al. nor Kobayashi, since Pavlik et al. and Kobayashi discloses all of the claimed elements and their recited relationships. Moreover, the examiner will presume that the recited results are inherent in Pavlik et al. and Kobayashi since all of the claimed elements and the relationships therebetween are met by Pavlik et al. and Kobayashi. If the recited result(s) are not inherent in Pavlik et al. and Kobayashi, then this would mean that the applicant has failed to recite one or more critical feature of the present invention (i.e., a problem under U.S.C. 112, 1st Paragraph).

It should be emphasized that "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. In In re Danly, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In Hewlett-Packard Co v Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: "Apparatus claims cover what a device is, not what it does." (emphases in original). To emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original).

That is, in an apparatus claim, if a prior art structure discloses all of the structural elements in the claim, as well as their relative juxtaposition, then it reads on the claim,

regardless of whether or not the function for which the prior art structure was intended is the same as that of the claimed invention.

In response to Applicant's argument that Pavlik et al. and Kobayashi use the slots for cooling or other purposes, the fact that Applicant uses the slot for a different purpose does not alter the conclusion that its use in a prior art device would be *prima facie* obvious from the purpose disclosed in the reference." *In re Lintner*, 173 USPQ 560.

In response to Applicant's argument that Pavlik et al. do not disclose a quadrature axis, it must be noted that a quadrature axis is an imaginary straight line passing through a body around which a body revolves or around which parts of a body are symmetrically arranged, and that the line is separated from another point by an angle of 90 degrees (*Radio Shack New 1974-75 Unabridged Dictionary of Electronics*, edited by Rudolf F. Graf). Refer to the figures attached, showing that the slot (32) is arranged at a quadrature axis of the rotor.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
October 16, 2002

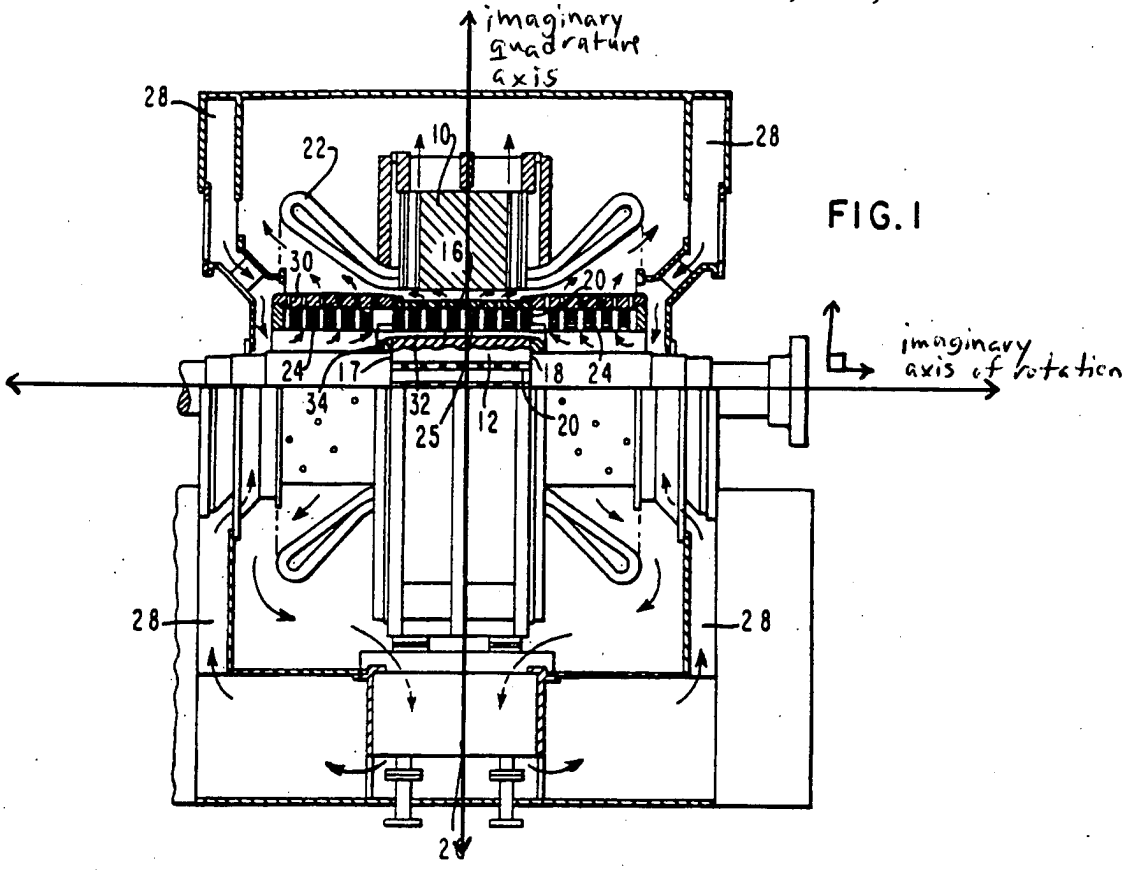

FIG. 1

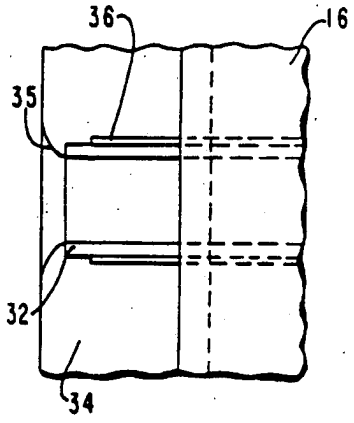

FIG. 5

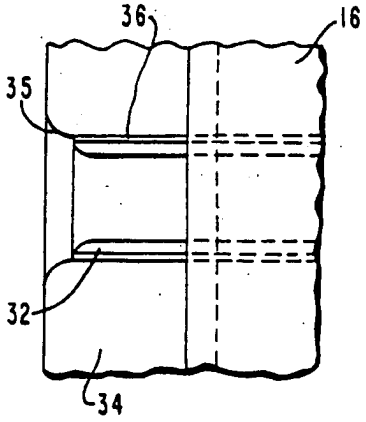

FIG. 8

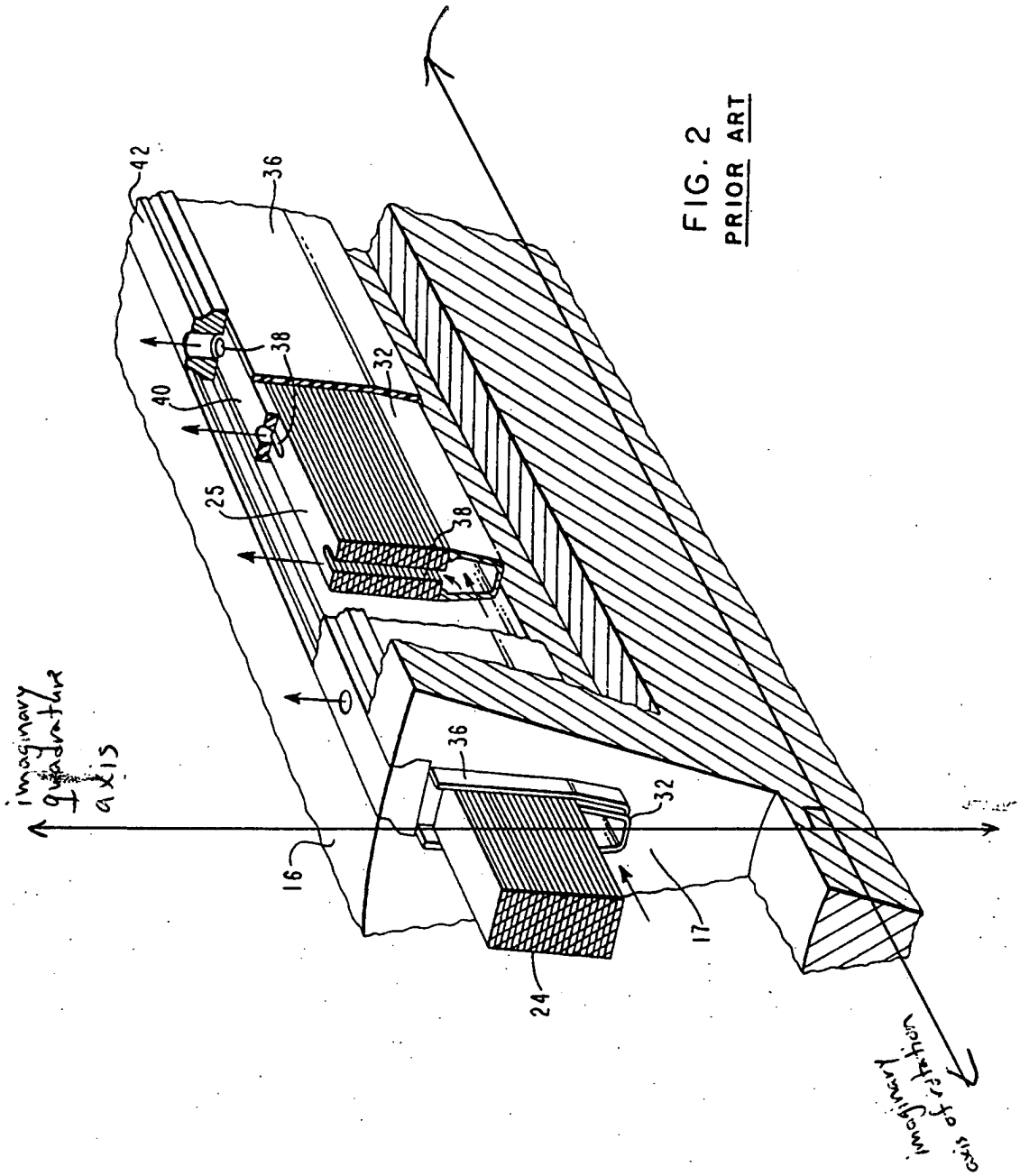

FIG. 2
PRIOR ART

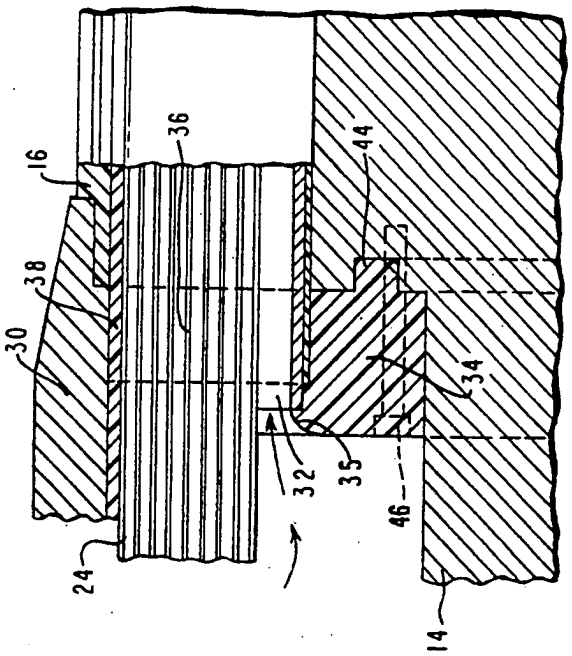
16
36
44
38
30
34
32
35
46
24
14

FIG. 4

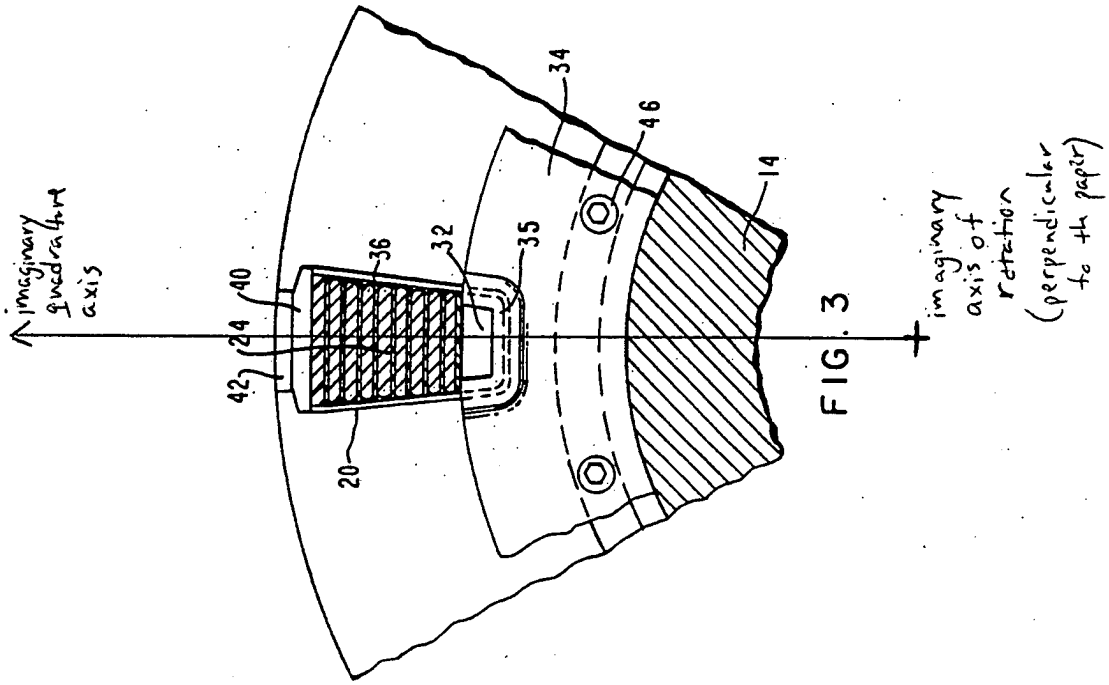
imaginary gradient axis
40
24
42
36
32
35
34
46
14
20
imaginary axis of rotation (perpendicular to the paper)

FIG. 3

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Quality Assurance Specialists:
Don Hajec.....703-308-4075 **Paul Dzierzynski.....703-308-4822**

If the contents of the attached correspondence have any clerical omissions, e.g., missing references or pages, illegible text, or any other similar errors, please contact us at the number below. We will take appropriate action to expedite the necessary corrections. Also, if you have general questions concerning any application assigned to Technology Center 2800, please contact our Customer Service Center. Questions concerning the merits of the application must be directed to the Examiner in charge of the particular application, then to the supervisor if appropriate.

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Directors, Technology Center 2800
Semi-conductors, Electrical, Optical Systems & Components

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Rolf G Hille	703/306-0658	2820
Richard Seidel	703/306-343[illegible]	2830/40
Howard N Goldberg	703/306-343[illegible]	2850-60
Janice A Falcone	703 308-0530	2870 80